Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A thin film magnetic head comprising:

a thin film coil for generating a magnetic flux; and

a magnetic pole layer for emitting the magnetic flux generated by the thin film coil toward a recording medium,

the magnetic pole layer having a stacked structure including a main magnetic pole layer disposed so as to be exposed in a recording medium facing surface which faces the recording medium, an auxiliary magnetic pole layer of which one end face is recessed from the recording medium facing surface and which is disposed so as to face a part of the main magnetic pole layer, and a non-magnetic layer disposed so as to be sandwiched between the main magnetic pole layer and the auxiliary magnetic pole layer,

wherein the auxiliary magnetic pole layer includes a film-thickness-changing portion of which film thickness gradually degreases from a position backward of the one end face recessed from the recording medium facing surface toward the one end face.

2. (Original) A thin film magnetic head according to claim 1, wherein the auxiliary magnetic pole layer further includes a film thickness uniform portion connected to the rear end of the film thickness changing portion and having a uniform film thickness, and

a ratio of the film thickness of the one end face in the film-thickness-changing portion to the film thickness of the film thickness uniform portion lies within a range from 0 to 0.8.

3. (Original) A thin film magnetic head according to claim 2, wherein the one end face of the auxiliary magnetic pole layer has a uniform film thickness and

the ratio of the film thickness lies within the range from 0 to 0.5.

4. (Original) A thin film magnetic head according to claim 1, wherein the film-thickness-changing portion has a slope which is positioned in correspondence with an area of which film thickness decreases, and

an angle formed by the slope and an plane extended from the auxiliary magnetic pole layer lies within the range from 15 degrees to 75 degrees.

5. (Original) A thin film magnetic head according to claim 1, wherein the magnetic pole layer emits a magnetic flux for magnetizing the recording medium in a direction orthogonal to the surface of the recording medium.

6. (Withdrawn) A method of manufacturing a thin film magnetic head comprising: a thin film coil for generating a magnetic flux; and a magnetic pole layer for emitting the magnetic flux generated by the thin film coil toward a recording medium, the magnetic pole layer having a stacked structure including a main magnetic pole layer disposed so as to be exposed in a recording medium facing surface which faces the recording medium, an auxiliary magnetic pole layer of which one end face is recessed from the recording medium facing surface and which is disposed so as to face a part of the main magnetic pole layer, and a non-magnetic layer disposed so as to be sandwiched between the main magnetic pole layer and the auxiliary magnetic pole layer,

wherein a step of forming the auxiliary magnetic pole layer includes the steps of:

forming a first precursor auxiliary magnetic pole layer pattern as a preparation layer of the auxiliary magnetic pole layer, so as to have an end face including the one end face;

forming a second precursor auxiliary magnetic pole layer pattern so as to include a portion of which film thickness gradually degreases from a position backward of the

end face recessed from the recording medium facing surface toward the end face by selectively etching a portion close to the end face in the first precursor auxiliary magnetic pole layer pattern; and

forming the auxiliary magnetic pole layer so as to include the one end face and a film-thickness-changing portion of which film thickness gradually decreases from a position backward of the one end face recessed from the recording medium facing surface toward the one end face by patterning the second precursor auxiliary magnetic pole layer pattern by etching while using a mask for etching.

7. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 6, wherein the auxiliary magnetic pole layer further includes a film thickness uniform portion connected to the rear end of the film-thickness-changing portion and having a uniform film thickness, and

a ratio of the film thickness of the one end face in the film-thickness-changing portion to the film thickness of the film thickness uniform portion lies within a range from 0 to 0.8.

8. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 6, wherein the first precursor auxiliary magnetic pole layer pattern is formed by growing a plating film.

9. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 6, wherein the first precursor auxiliary magnetic pole layer pattern is etched while being irradiated with an ion beam from a direction at an angle in a range of plus or minus 10 degrees of 35 degrees from a direction orthogonal to a plane extended from the first precursor auxiliary magnetic pole layer pattern by using ion milling.

10. (Currently Amended) A thin film magnetic head comprising:

a thin film coil for generating a magnetic flux; ~~and~~

a magnetic pole layer for emitting the magnetic flux generated by the thin film coil toward a recording medium,

the magnetic pole layer having a plane shape including a uniform width area having a uniform width which specifies a recording track width of a recording medium and a wide area which is wider than the uniform width area and having a stacked structure including: a main magnetic pole layer disposed so that one end face is exposed in a recording medium facing surface which faces the recording medium; an auxiliary magnetic pole layer of which one end face is recessed from the recording medium facing surface and which is disposed so as to face a part of the main magnetic pole layer; and a non-magnetic layer disposed so as to be sandwiched between the main magnetic pole layer and the auxiliary magnetic pole layer~~;~~ and, a return yoke layer for returning a magnetic flux emitted from the magnetic pole layer to the recording medium,

wherein the main magnetic pole layer in the magnetic pole layer includes a first main magnetic pole layer portion extended with a uniform width from the recording medium facing surface in a direction apart from the surface and a second main magnetic pole layer portion connected to the rear end of the first main magnetic pole layer portion and having a width larger than that of the first main magnetic pole layer portion,

a width increase position from which the width of the magnetic pole layer increases from the uniform width area to the wide area is specified by a connection position of the first and second main magnetic pole layer portions, and

the second main magnetic pole layer portion in the main magnetic pole layer has a main magnetic pole wide portion of which width gradually increases from the width increase position in a direction apart from the width increase position.

11. (Currently Amended) ~~A thin film magnetic head according to claim 10,~~ A thin film magnetic head comprising:

a thin film coil for generating a magnetic flux;

a magnetic pole layer for emitting the magnetic flux generated by the thin film coil toward a recording medium,

the magnetic pole layer having a plane shape including a uniform width area having a uniform width which specifies a recording track width of a recording medium and a wide area which is wider than the uniform width area and having a stacked structure including: a main magnetic pole layer disposed so that one end face is exposed in a recording medium facing surface which faces the recording medium; an auxiliary magnetic pole layer of which one end face is recessed from the recording medium facing surface and which is disposed so as to face a part of the main magnetic pole layer; and a non-magnetic layer disposed so as to be sandwiched between the main magnetic pole layer and the auxiliary magnetic pole layer and, a return yoke layer for returning a magnetic flux emitted from the magnetic pole layer to the recording medium,

wherein the main magnetic pole layer in the magnetic pole layer includes a first main magnetic pole layer portion extended with a uniform width from the recording medium facing surface in a direction apart from the surface and a second main magnetic pole layer portion connected to the rear end of the first main magnetic pole layer portion and having a width larger than that of the first main magnetic pole layer portion,

a width increase position from which the width of the magnetic pole layer increases from the uniform width area to the wide area is specified by a connection position of the first and second main magnetic pole layer portions,

the second main magnetic pole layer portion in the main magnetic pole layer has a main magnetic pole wide portion of which width gradually increases from the width increase position in a direction apart from the width increase position, and

wherein an end face on the side close to the recording medium facing surface of the main magnetic pole wide portion is gradually inclined with distance from the first main magnetic pole layer portion.

12. (Currently Amended) ~~A thin film magnetic head according to claim 10,~~ A thin film magnetic head comprising:

a thin film coil for generating a magnetic flux;

a magnetic pole layer for emitting the magnetic flux generated by the thin film coil toward a recording medium,

the magnetic pole layer having a plane shape including a uniform width area having a uniform width which specifies a recording track width of a recording medium and a wide area which is wider than the uniform width area and having a stacked structure including: a main magnetic pole layer disposed so that one end face is exposed in a recording medium facing surface which faces the recording medium; an auxiliary magnetic pole layer of which one end face is recessed from the recording medium facing surface and which is disposed so as to face a part of the main magnetic pole layer; and a non-magnetic layer disposed so as to be sandwiched between the main magnetic pole layer and the auxiliary magnetic pole layer and, a return yoke layer for returning a magnetic flux emitted from the magnetic pole layer to the recording medium,

wherein the main magnetic pole layer in the magnetic pole layer includes a first main magnetic pole layer portion extended with a uniform width from the recording medium facing surface in a direction apart from the surface and a second main magnetic pole layer portion connected to the rear end of the first main magnetic pole layer portion and having a width larger than that of the first main magnetic pole layer portion,

a width increase position from which the width of the magnetic pole layer increases from the uniform width area to the wide area is specified by a connection position of the first and second main magnetic pole layer portions,

the second main magnetic pole layer portion in the main magnetic pole layer has a main magnetic pole wide portion of which width gradually increases from the width increase position in a direction apart from the width increase position, and

wherein the auxiliary magnetic pole layer includes:

a first auxiliary magnetic pole layer portion extended with a uniform width from the connection position in the same direction as the direction of extension of the first main magnetic pole layer portion; and

a second auxiliary magnetic pole layer portion connected to the rear end of the first auxiliary magnetic pole layer portion and having a width larger than that of the first auxiliary magnetic pole layer portion, and

the second auxiliary magnetic pole layer portion in the auxiliary magnetic pole layer has an auxiliary magnetic pole wide portion which is gradually widened from the connection position of the first and second auxiliary magnetic pole layer portions with distance from the position.

13. (Original) A thin film magnetic head according to claim 12, wherein a non-magnetic mask layer having a plane shape corresponding to a body obtained by combining the first main magnetic pole layer portion, the first auxiliary magnetic pole layer portion, and the second auxiliary magnetic pole layer portion is adjacent to the magnetic pole layer.

14. (Original) A thin film magnetic head according to claim 10, wherein the main magnetic pole layer is made of a material having a saturated magnetic flux density equal to or higher than a saturated magnetic flux density of the auxiliary magnetic pole layer.

15. (Original) A thin film magnetic head according to claim 10, wherein the magnetic pole layer emits a magnetic flux for magnetizing the recording medium in a direction orthogonal to the surface of the recording medium.

16. (Withdrawn) A method of manufacturing a thin film magnetic head comprising:

a thin film coil for generating a magnetic flux, a magnetic pole layer for emitting the magnetic flux generated by the thin film coil toward a recording medium,

the magnetic pole layer having a plane shape including a uniform width area having a uniform width which specifies a recording track width of a recording medium and a wide area which is wider than the uniform width area and having a stacked structure pattern including: a main magnetic pole layer disposed so that one end face is exposed in a recording medium facing surface which faces the recording medium; an auxiliary magnetic pole layer of which one end face is recessed from the recording medium facing surface and which is disposed so as to face a part of the main magnetic pole layer; and a non-magnetic layer disposed so as to be sandwiched between the main magnetic pole layer and the auxiliary magnetic pole layer; and

a non-magnetic mask layer patterned so as to be adjacent to the magnetic pole layer,

wherein a step of forming the magnetic pole layer includes:

a first step of forming and stacking a precursor main magnetic pole layer as a preparation layer of the main magnetic pole layer and a precursor non-magnetic layer as a preparation layer of the non-magnetic layer in accordance with this order;

a second step of forming a precursor auxiliary magnetic pole layer pattern defining the wide area, as a preparation layer of the auxiliary magnetic pole layer in an area corresponding to the wide area on the precursor non-magnetic layer;

a third step of forming a precursor non-magnetic mask layer as a preparation layer of the non-magnetic mask layer on the precursor auxiliary magnetic pole layer pattern and its peripheral area;

a fourth step of forming a mask layer in an area corresponding to both of the uniform width area and the wide area on the precursor non-magnetic mask layer;

a fifth step of forming the non-magnetic mask layer defining the uniform width area by patterning the precursor non-magnetic mask layer by etching by using the mask layer and, subsequently, forming a precursor non-magnetic layer pattern by patterning the precursor non-magnetic layer by etching by using both of the non-magnetic mask layer and the precursor auxiliary magnetic pole layer pattern as a mask; and

a sixth step of forming the auxiliary magnetic pole layer by patterning the precursor auxiliary magnetic pole layer pattern by etching using the non-magnetic mask layer,

subsequently, forming the non-magnetic layer by etching the precursor non-magnetic layer pattern together with the precursor main magnetic pole layer by using the non-magnetic mask layer, the precursor auxiliary magnetic pole layer pattern, and the precursor non-magnetic layer pattern as a mask to selectively etch both wings of the precursor non-magnetic layer pattern to be recessed so as to be gradually widened, and forming the main magnetic pole layer by patterning the precursor main magnetic pole layer in accordance with a change in the shape of the precursor non-magnetic layer pattern.

17. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 16, wherein in the first step, the precursor non-magnetic layer is formed by using a material of which etching rate is lower than that of the precursor auxiliary magnetic pole layer pattern, and

in the third step, the precursor non-magnetic mask layer is formed by using a material of which etching rate is lower than that of each of the precursor auxiliary magnetic pole layer pattern and the precursor main magnetic pole layer.

18. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 16, wherein in the fourth step, the mask layer is formed and then a portion corresponding to the uniform width area in the mask layer is selectively etched in the width direction, thereby narrowing the portion corresponding to the uniform width area, and

in the fifth step, an etching process is performed by using the mask layer having the narrowed portion corresponding to the uniform width area.

19. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 18, wherein the mask layer is etched while being irradiated with an ion beam from a direction at an angle in a range of plus or minus 5 degrees of 70 degrees from a direction orthogonal to a plane extended from the mask layer by using ion milling.

20. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 16, wherein in the fourth step, the mask layer is formed by growing a plating film.

21. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 16, wherein in the sixth step, an etching process is performed while being irradiated with an ion beam from a direction at an angle in a range of plus or minus 10 degrees of 35 degrees from a direction orthogonal to a plane extended from the precursor auxiliary magnetic pole layer pattern by using ion milling.

22. (Withdrawn) A method of manufacturing a thin film magnetic head according to claim 21, wherein in the sixth step, the main magnetic pole layer is formed, and after that,

an etching process is performed on a portion corresponding to the uniform width area in the main magnetic pole layer by irradiating the portion with an ion beam from a

direction at an angle in a range of plus or minus 10 degrees of 60 degrees from a direction orthogonal to a plane extended from the main magnetic pole layer by using ion milling.